

Attorney's Dock t No.:06816-035003

REMARKSRequest for withdrawal of finality of official action

Initially, note that at least certain claims, notably at least claims 47-73 and 75-83, were rejected over a new ground of rejection based on the new Bethea reference, in view of the new Kozloski reference. At least claim 56 was not amended in the last amendment. Therefore, it stands to reason that applicant's response could not have necessitated the new ground of rejection. Accordingly, it is respectfully suggested that the rejection was prematurely and improperly made final. A withdrawal of the finality of the official action is requested.

Response to action

Claims 41 and 43-46 stand rejected under 35 USC 102(b) as allegedly being anticipated by the newly cited reference to Bethea et al. It is respectfully suggested, however, that Bethea et al. enjoys many similar limitations to those discussed previously in the case. Specifically, Bethea et al. shows that a bound level of energy is far below the well top, NOT "resonant with the well top" as claimed. The cited section noted by the rejection column 1, lines 45-53, states only that there is a bound energy state for the carriers within the well. The position of this energy state can be seen, for example, in

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Figures 2, 3, and 11 and 12. Specifically, a bound energy state is in fact within the well, not resonant with the well top as claimed. According to the Bethea et al. system, carriers need to be excited to a level which will bring them out of the well and into the continuum. Bethea et al. does not teach that bound energy state is resonant with the well top, and in fact teaches quite the opposite. According to Bethea et al., the bound energy state is set deep within the well, not resonant with the well top. There is no teaching or suggestion in Bethea et al. to the contrary of this, and all of the teaching in Bethea et al. is consistent with the carrier being bound within the well and needing to be excited out of the well. There is no teaching or suggestion of this being a bound energy level that is at a level "that is resonant with said well top" as claimed.

Claims 47-73 and 75-83 stand rejected over Bethea et al. in view of Koslowski. The rejection apparently provides the Koslowski reference to show forming multiple quantum well stacks. While this is in fact shown by the reference, there is nothing teaching or suggesting the important limitation that a bound energy state is resonant with the well top as claimed. Therefore, each of the claims which define this feature should be allowable.

Claim 56 should be allowable for similar reasons, as it states that a bound excited energy state is substantially

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resonant with a top portion of the well. As noted above, Bethea et al. requires exciting the carriers to get and out of the well, and hence is certainly not resonant with the well top.

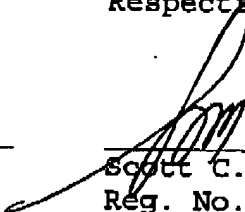
Each of the dependent claims not specifically mentioned should be allowable for reasons stated above as well as on their own merits.

Claim 71 should be allowable for similar reasons to those discussed above; specifically that a bound energy state is resonant with a top portion of the well, which is completely different than the cited prior art, as discussed previously.

For all of these reasons, therefore, it is respectfully suggested that all of the claims should be in condition for allowance. A formal notice to that effect is respectfully solicited.

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Respectfully submitted,

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